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Inter-Viewing Foregrounds

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Inter-Viewing Foregrounds

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Abstract. The notion of *foreground* refers to a person's interpretation of his or her learning possibilities and 'life' opportunities, in relation to what the socio-political context seems to make acceptable for and available to the person. Students' foregrounds are part of a *learning landscape*, which we define as a set of inter-related dimensions implicated in the constitution of mathematics education practices. In this paper we present a case drawn from an empirical investigation of foreground, based on inter-views with 14-15 years old students from multicultural classrooms in Denmark. The purpose is to explore if there are or could be any 'learning motives' that connect mathematics in school and possible out-of-school practices either in terms of possible future work practices or possible further studies.

Introduction

In Denmark people of different ethnic ascendant than Danish have been target of political debate in a time when the dominant Western culture has come in conflict with non-Western worldviews. Nowadays the overall public discourse of mistrust and sometimes almost hatred against 'those-who-are-not-like-us' permeate many spheres of social life, among others schools and classrooms. In the educational arena 'immigrants' are constructed as problematic, and multilingualism as an obstacle that needs to be overcome. Assimilation perspectives seem to prevail against multicultural inclusive approaches to educational practice.¹ This general public discourse is not foreign to teachers and students, and in many occasions it gets embedded in and becomes reconstructed through the daily practices of people in schools. These discourses meet the lives of concrete people such as Razia, a female 8th grade student who recently migrated to Denmark from Iraq in the prelude of the 2003 war. Public discourses, social structures, institutional arrangements, educational practices and flesh-and-bone people's lives intermesh and give birth to concrete learning possibilities and life opportunities. It is this complex intermeshing that attracts our attention.

For us as educational researchers with a concern for social equity, studying the multicultural classrooms has become a must and a challenge. First, we see the necessity of unpacking practices and understanding them from perspectives that may represent an alternative to the homogenizing rhetoric of cultural assimilation of different peoples' values and worldviews into a dominant Danish culture. Second, we face the difficulty of researching practice from a multi-layered perspective that invites to the maintenance of complexity. Our research intentions in the area of multiculturalism are then to engage in both conceptual and empirical investigations that allow us to understand education in settings of diversity and to envision alternatives to existing practices. Even if we focus a great deal of our investigation in the context of mathematics classrooms, we have a broad approach that transcends the specificities of mathematical cognition and enters the socio-political arena of (mathematics) education. Although we in this study refer to a particular Danish context, we find this

¹ See Alrø, Skovsmose and Valero (2005).

could reveal many of the problems experienced by immigrants in other societies who are met by a those-who-are-not-like-us discourse.

In this paper we want to concentrate on the notion of *foreground*, and on the empirical study of it. We find that foreground can be helpful in illuminating students' participation in educational practices. Based on an empirical study of students' foregrounds in a group of 8th grade students (ages 14-15) in Mælkevejen Skole (pseudonym), a multicultural school in Denmark, we examine the case of one student, Razia (pseudonym), as a means of exploring the significance of the notion of foreground in understanding her intentionality for engaging in (mathematics) learning. We start the paper by addressing the general theoretical and methodological framework that we adopt in our study of multicultural education. We continue with the examination of the notion of foreground and identify some of its characteristics. We then enter into a discussion of the particular methodological approach that we have developed for the investigation of foregrounds. We proceed with the presentation of Mælkevejen Skole and of Razia, and analyse and interpret her foreground in terms of a learning landscape. We conclude with reflections about the relevance and limitations of the notion of foreground for the investigation of students' learning possibilities in multicultural situations.

A multi-dimensional perspective on multiculturalism in education

Cultural diversity has always been present in Denmark —as much as in any other society. However, the recent increase in the immigration of people from non-European, non-Western countries has exacerbated the discussion of cultural difference and multiculturalism. We adopt a conception of culture and cultural diversity that refers to “the ever-changing values, traditions, social and political relationships, and worldview created and shared by a group of people bound together by a combination of factors (which can include a common history, geographic location, language, social class, and/or religion), and how these are transformed by those who share them” (Nieto, 1996, p. 390, quoted in Nieto, 2002, p. 53). Furthermore, cultural diversity is a dynamic construction constituted in relation to activity. That is, a person or a group of people can at the same time belong to different cultures in relation to individual or collective activity. In certain practices in a particular context, people may adhere to the values, traditions, relationships and worldviews that are defined by the field of practice within which the activity they engage in is located. This implies that individuals and groups may identify themselves with more than one culture at one given moment, that they may share one or more of these cultures, and that such an identification with cultures is changing not only with time (as suggested by Nieto), but also according to activity and situation (suggested by Gullestrup, 2003).

As mentioned above, multiculturalism is seen not only in relation to diversity of peoples but also in diversity of activity. Therefore, the study of educational practices in multicultural settings should be studied from perspectives that allow grasping the multiplicity of spaces in which such diversity is constructed and expressed. We use the notion of *learning landscape* as a methodological construct that serves a double function: On the one hand, it represents a perspective which responds to the view that (mathematics) education is a set of complex social practices constituted in a multiplicity of contexts of action. This perspective implies the construction of a research field as a network of related sites of mathematics education. On the other

hand, the construct allows pointing to the research foci of particular theoretical and empirical studies. The notion of learning landscape then is an important methodological tool since it signals the constitutive relationship between research perspective and research objects. Inspired by research findings about (mathematics) education in multicultural settings, we have selected the following 9 dimensions of our learning landscape:

1. Students' foregrounds (Skovsmose, 2005a, 2005b; Valero, 2004; Alrø and Skovsmose, 2002)
2. Students' construction of identity in relation to a diversity of cultural elements available to them (Abreu, 2005)
3. Teacher's perspectives, opinions and priorities of teaching (César and Favilli, 2005)
4. The content of learning, in our case the mathematical referent for classroom interaction, including forms and priorities for how mathematics should be taught and learnt (Powel, 2002)
5. Tools or resources for learning that students might have available and might consider relevant for the learning of mathematics (Borba and Villarreal, 2005)
6. Classroom interaction among students and between students and teacher (Alrø and Skovsmose, 2002; Gorgorió et al., 2002)
7. Parents, who serve as role models or authorities for students' priorities (Hawighorst, 2005; Gutstein, 2003)
8. Friends, who are reference groups for the construction of students' identities (Bishop, 2002)
9. Public discourses about immigrants, schooling and multiculturalism (Martín-Rojo, 2003)

Students' foregrounds are one element of the learning landscape. In what follows we will concentrate on the conceptual definition of this element and present the way in which we have investigated it in relation to the whole learning landscape.

Foregrounds and dispositions for learning in multicultural situations

The notion of *foreground* (Skovsmose, 1994, 2005) refers to a person's interpretation of his or her learning possibilities and 'life' opportunities, in relation to what the socio-political context seems to make acceptable for and available to the person. Thus the foreground is not any simple factual given to the person; rather, it is a personally interpreted experience of future possibilities within the social and political frame within which the person acts.

We find this notion to be of relevance for educational research because it allows linking different key conceptual elements of educational theory. First of all, foreground is related to *learning* through the construction of dispositions. We consider learning a process in which persons make the decision of engaging in getting to know. Learning, therefore, is an act. Learning-as-action can only take place on the grounds of the person's *dispositions*, that is, on the person's readiness to find motives to engage in action. Dispositions can be seen as the constant interplay between a person's *background* and *foreground*. The background of a person is the person's previous experiences given his or her involvement with the cultural and socio-political context. In contrast to some definitions of context which see background

almost as an objective set of personal dispositions given by one's positioning in different social structures, we consider background to be a dynamic construction in which the person is constantly giving meaning to previous experiences, some of which may have a structural character given by the person's positioning in social structures. The foreground, as previously defined, is also an element in the formation of dispositions. The person is all the time finding reasons to get engaged in learning activities not only because of the permanent reinterpretation of his or her background, but also because of the constant consideration of his or her foreground. That is, the person connects previous experiences with future possible scenarios for action.

Second, foreground is also a central element in the creation of *meaning*. A condition for a person making the decision of engaging in the act of learning is that the activity makes sense, that is, that the person finds and constructs a meaning. Much of the discussion of meaning in education is related to whether students can engage in cognitive and emotional processes that allows for the expansion of the referential basis of existing and new concepts and, therefore, lead to the construction of meaning. Some other trends emphasize the dimension of meaning of educational activities in relation to the utility and applicability of school knowledge in real life situations. The notion of foreground highlights the fact that meaning is not only a function of what the student has already cognized, but also and especially of the student's dreams, illusions, aspirations and perceived realistic possibilities for his or her future life.

Third, foreground is a concept that emphasizes the *socio-political nature of education and learning*. A person's intentions and dispositions of learning grow in the tension between individual preferences and interpretations and socio-political framings and contexts for individual action. A foreground does not represent an unrealistic interpretation of dreams and desires of what the person would like to be or become in a future; rather, it is based on a realistic consideration of what the person perceives to be his or her chances in the future given what the context shows the person to be possible to attain. This does not mean that we see a structural determinism of socio-political structures on the individual. The notion points to the dialectics between individual agency and structure as one of the central elements in interpretations of people's engagement with learning, and for their association of meaning to what they might be engaged in.

Even if until now we have referred to the concept in singular, from now on we would rather talk about foregrounds in plural. Thinking about concrete students, we see that a person can actually develop *multiple foregrounds*, as a foreground can be acted out in different ways, depending on the situation. A person does not necessarily maintain a universal foreground, but he or she could switch between different foregrounds. To a 14-15 year-old teenager, dreamy and realistic elements may be switching. Depending on the situation different foregrounds could be brought in operation and in this way serve as motives for actions and for bringing intentions-in-learning. For a teenager, foregrounds could also include more provocative elements, in particular brought in operation when one of the parents is present.

Foregrounds then are changing, and we can observe a strong *discontinuity*. Suddenly a new way of looking at one's possibilities can emerge. This can, for instance, be due to change in the social environment or to becoming friends or to falling in love with a person from the neighbourhood. New motives for learning can emerge, apparently out of nowhere. This means that a foreground is not a particular 'thing' which we as researchers could hope to discover in a proper way. It does not make sense to ask: What is the real foreground of a person? We do not expect any

particular psychological ‘entity’ to correspond with the expression ‘foreground’. (In this sense ‘foreground’ is similar to the ‘mood’ of a person.) Foreground is a relational construct; it becomes acted out or manifested differently in different situations and with reference to different groups. Still, we see foregrounds as something ‘real’ in the sense that it has implications for motives, decisions and actions (just as a ‘mood’ is real).

Immigrant students’ foregrounds might contain elements that are less common in the foregrounds of other students. This could be related to the possibilities that are unfolded in the meeting of backgrounds and new situations. As any student or any person immigrant students experience possibilities or lack of possibilities. However, immigrant students might experience that a different set of opportunities are available for them because they are socially positioned outside of the dominant culture. They might experience what we could call ‘immigrant possibilities’. In a study conducted by Sikunder Ali Baber, immigrants’ view of their possibilities appears to be polarised: either one becomes successful in school, or one gets to the bottom (Baber, 2005). There is no convenient middle road accessible to immigrants. We are not going to judge to what extent this statement might be ‘true’. The point is, as emphasised by Baber, that it is a general experienced phenomenon among immigrants.

At the moment we are not able to formulate any clear-cut thesis about the foreground of immigrant students with respect to mathematics. However, we could imagine different possibilities. It might be that mathematics (not least in the school mathematics tradition) constitutes a neutral ground where cultural differences are not accentuated, meaning that immigrant students could find a refuge in the mathematics classroom. Or it could also be that the mathematics classroom represents a site for lost opportunities for learning from diversity. However, instead of speculating let us give attention to our empirical investigations of foregrounds in search for more elements of analysis and conceptual clarification.

Researching foregrounds

When studying foregrounds we must consider the role of the researcher as well as the role of ‘others’ in a foreground investigation. Could the researcher and the researching disturb the student’s foreground in such a way that it is not the proper foreground that is expressed? The use of the word ‘disturbing’ might be misleading. The concept presupposes that some particular (or ‘true’ or ‘authentic’) foreground can be excavated, and as we have pointed before, we suppose that foregrounds exist as constructions but not necessarily that they can be found in any ‘true’ or ‘pure’ form. It is also possible to think of ‘disturbing factors’ as being ‘constructing factors’ because foregrounds become experienced by being disturbed in interaction with others. This has implications for how we conduct our empirical research. We can think of engaging students in different manifestations of their multiple and dynamic foregrounds. This means that an active interviewing by the researcher need not be seen as a disturbance of what the foreground ‘really’ is, but could be seen as a way of revealing and co-constructing multiple foregrounds. Steiner Kvale (1996) has used the expression inter-viewing. We find that this elegant formulation of ‘seeing together’ condenses nicely our approach to researching foregrounds.

From the part of the researcher, there is no hidden agenda, i.e. something in the research design, which is necessary for us as researchers to hide from the person whose foreground is investigated in order to obtain ‘validity’ in the research. The

students in our research have an authority. His or her statements can be seen as manifestations of his or her foreground. This makes it possible to consider *dialogue* as an adequate research approach (see for example Stentoft, 2005). We are searching for perspectives, which are within the reach and capacity of the student. Through dialogue and collaboration perspectives can be stated, examined and challenged, and the participants can get to examine their own thinking more clearly. Therefore, we think of dialogue as a methodology for inter-viewing foregrounds.

Based on the previous general methodological principles, our foreground investigation follows some guidelines: The students participating in the study should be about 14-15 years old. This means that we look for the teenager's 'sensitive' preoccupation with where to go in life. Foregrounds are one of the dimensions of the landscape in which (mathematics) learning unfolds; therefore, the investigation of foregrounds is closely related to the investigation of some of the other components of the learning landscape mentioned previously. Researcher and participants engage in a dialogue through which future possibilities are under discussion. In this dialogue there are different possibilities. The inter-view can be carried out individually or in couples depending on the students' choice. The topics of conversation are not fully prescribed but can emerge from conversation or from the active questioning of the researcher. For example, although crucial for our investigation of foregrounds, mathematics may not pop up immediately in a foreground inter-viewing. This means that the dimension of mathematics may not surface so easily in the students' perspectives. A more active questioning can be important, and we do not see an active challenging as foreign to our research approach.

The particular material we want to present in the following is one of the multiple empirical investigations that are connected to our learning landscape and to the notion of foreground². This particular study took place in Mælkevejen skole in a city in Denmark. After establishing contact with the school and two mathematics teachers in 8th and 9th grades, there was an agreement on the participation in the study of two 8th grades classes, in total 24 students. Helle Alrø conducted the study during the Fall 2004.

This inquiry contained four phases. In a first phase of 'Getting in contact', the researcher, Helle Alrø, introduced herself and the study and asked students for their consent to participate in it. It was emphasized that the anonymity of students in the survey would be maintained. The researcher joined their mathematics lessons for a period of two weeks and during the breaks she small talked with the students about herself and about the students' interests and what they were doing.

In a second phase of 'Looking into the future', the main issue addressed was how the students imagine themselves in the future. The researcher introduced this second phase by a series of guiding questions that were supposed to make the students imagine themselves and their lives in ten years: What would they look like? Where would they live? With whom would they live? Who would their friends be and what would they do together? Would they go to school or to work and if so which kind of school or work? What are their strengths and resources? Did they get any help to reach what they wanted and were there any hindrances in their way? After this guiding, the students were asked to write a short story about themselves and their lives as they imagined the situation in ten years.

² We are also conducting foregrounds investigations in quite different contexts such as that of students in a Brazilian favela and students in indigenous communities in Brazil.

In a third phase of 'Looking at the mathematical content of the imagined future', the researcher intended to explore if there were or could be any 'learning motives' that connect mathematics in school and possible out-of-school activities and practices. In this third phase students completed a questionnaire about how they value going to school and learning mathematics, if learning mathematics involves doing exercises, project work or working with computer, if they are good at mathematics, if their parents and their teacher think that they are good at mathematics, if they think that mathematics is important for their everyday life and for their future, and if they talk with their friends about their future and know of each other's future plans.

In a fourth phase of 'Exploring the students' foregrounds', the researcher interviewed the students, individually or in couples, after having examined the stories and questionnaires of the students, produced in the previous phases. Together they explore different issues in the previously produced material that seem important to the students or to the researcher. In this dialogue the students also told about their present teaching and learning of mathematics, although they did not always use the term 'mathematics'. The point is that different notions of 'mathematics' get in operation in this phase: An 'ethnomathematical' understanding makes it possible to see mathematics everywhere, while a strict 'school mathematics' understanding identifies mathematics more or less with what is experienced in school. So instead of asking for 'mathematics' the researcher asks questions using terms such as 'counting', 'estimating', 'judging numbers', etc.

The material produced through the inquiry has been analyzed by all of us in order to identify elements in the foregrounds of students that give an indication of their relevance for the learning of mathematics. The analysis strategy has also been to connect particular elements of the foregrounds to the other eight elements of the learning landscape that we have defined in our research approach. In this way we expect to understand the notion and its significance in the study of multicultural settings. In what follows, we concentrate on the story of Razia, a Muslim girl from Iraq. On the basis of this analysis, we discuss how the dimension of foreground relates to other dimensions of a learning landscape.

Mælkevejen Skole

Mælkevejen Skole is a primary and lower-secondary school situated in a suburb of a bigger city. The suburb, as in many other Danish cities, rooms a high concentration of immigrant and low-income population. The school buildings are one-storey houses made of concrete during the 1970's. The school area is rather big consisting of several houses. In one we find the 8th grade. In this building there is as well a computer-lab, which at the time of the research was temporarily closed because of hooligan acts. In the middle of the building there is a hall with tables and benches that is used for group work during the lessons and for relaxation during the breaks. There are also two tables for table tennis available. The walls are decorated with students' art works, and there is also a table of rules:

1. You are allowed to stay in the classroom, in the hall or outside during the breaks.
2. The classroom doors have to be open, and indoor activities have to be quiet.
3. You are allowed to play music in the classroom during the breaks.
4. You are not allowed to play ball in the hall.

5. You are not allowed to have visitors from other houses [meaning other sections in the school, for example from the higher grades section].
6. You are allowed to go to the skate, soccer and hockey grounds during the breaks, but please remember to be back in time.
7. You are supposed to talk politely both to children and adults.
8. The building is a non-mobbing zone, and please tell an adult person if this is not respected.
9. The school area is a non-smoking area.
10. Students under the 8th grade are not allowed to leave the school area without permission.

Arriving to the school the researcher, Helle, enters the big hall, crowded with students during a break. A quick view of the multitude indicates that there is lots of immigrant students. A couple of girls from the 6th grade approach the stranger and show her the painting on the wall reading 'Welcome' in very many languages. Mælkevejen Skole hosts students from 29 countries from all over the world. When immigrant students first arrive to the school they start in 'receiving classes', from where they move on to 'normal classes' whenever their teachers consider that they have sufficient language and subject-matter skills. "Immigrant students have very different school experiences. Some are not able to read and write in their mother tongue while others are way ahead of the educational level they are supposed to join", a teacher explains.

In the 8th grade there are 24 students of which half of them originates from other countries than Denmark. They come from Somalia, Iraq, Greenland, Lebanon, Turkey and Vietnam. The classroom, however, looks like a typical Danish classroom, and there are no artefacts that indicate the manifold of a multicultural classroom, except for the names on the students' pigeon holes. Sitting as a stranger in the classroom for a couple of weeks, it has not been possible to observe any explicit focus on multicultural diversity, neither from students or teacher. There is a serious climate of work and a good sense of humour among the students and between teacher and students. A Vietnamese boy replies (in Danish) to the observer's asking to borrow a chair at his desk: "Yes, please, but you cannot sit next to me" he says with a smile, but in order to explicate his sense of humour he promptly adds: "Of course you can sit here, I was just joking."

Two girls from Turkey sit next to each other and chat in their mother tongue, and so do the two newcomers from Greenland. Razia, a Muslim girl from Iraq, sits at the back of the classroom next to Fatima (pseudonym), a Somali girl. The teacher begins the lesson by checking if everybody is present. Then he goes to the blackboard and begins to lecture.

Do not live in Denmark! Razia's foregrounds

Razia is a short girl with dark brown eyes. Her hair is covered by a black headscarf. At Mælkevejen Skole dress code is free except for head clothing that is only allowed for religious reasons. Razia has a kind of grave look in her face, and she does not speak very much in class. When the teacher asks her a question she gives a polite and short answer. The researcher thinks that maybe Razia does not speak Danish very well, and she seems to be confirmed in this interpretation when she looks at Razia's

story about her future life³. She wrote one thing only: “Do not live in Denmark!” Maybe the exclamation mark indicates something quite different?

With these impressions in mind Helle meets Razia in the hall. They have to walk from one end of the school to the other to get to the room that is available for the inter-view. Razia seems eager to start talking about herself right away, and Helle asks her to wait a little in order to get everything taped. Helle asks her if she remembers the questionnaire and the story telling she made two weeks ago, and she is very well aware that she wrote: “Do not live in Denmark!”

Razia has lived in Denmark for 1 year and 7 months. She started going to school in the ‘receiving class’, and she has been in a ‘normal class’ for 3 months only. Razia speaks Danish perfectly well. She moved to Denmark with her parents, four brothers and an uncle. They moved because of her father having political problems in Iraq and because of the war. Razia is 100% certain that she will not stay in Denmark. She wants to go back to her family in the northern part of Iraq (she is Kurdish). But she will not return now because of the war.

There are many things that Razia does not like about Denmark, she says, but after a while she corrects herself:

Razia: The only thing I have is the headscarf [...] Well, this is the only problem I have.

As we will see in the following analysis this problem has serious consequences for Razia’s foregrounds. In the following, we present fragments of the inter-viewing between Razia and Helle, not in chronological order, but in a reorganisation that allows illuminating the other dimensions of the learning landscape as we have presented them previously. Although the whole investigation is a foreground investigation, we structure the following according to the dimensions of our learning landscape. So, first a few remarks about foreground.

Student’s foregrounds

Razia likes to go to school. She is especially fond of learning Danish. And she really is incredibly good at speaking it! From the questionnaire⁴ it can further be seen that she considers school in general and learning mathematics in particular as very important for her future. At the same time she has low estimates of her own competencies in mathematics and she thinks that both her parents and the teacher agree with this.

Razia likes school, because she wants to follow further studies, she says. So going to school seems to be closely connected to her foregrounds, although she does not exactly know what kind of education she wants to pursue. However, the idea of becoming a nurse shows up late in the inter-view. Razia is well aware of the importance for a Muslim woman of being educated. Her parents have a big say in this question. Her father has directly told her to get an education. Her father’s opinion must be of big importance, since Razia elsewhere claims that in her culture it is not possible to say no to one’s parents. More important, maybe, is her perception of her mother’s situation. In some sense, she does really not want to be like her mother:

³ The story produced by students in the second phase of the foregrounds investigation.

⁴ See description of the third phase of the foregrounds investigation.

Razia: ... my mother, she has no education. So she says, "I do everything for you. You are having an education. You should not become like me."
[...] Because in Iraq, if you don't get an education, then you marry early. My mother got married when she was 14 years old. And therefore she is afraid.

Getting an education is very important to Razia. And she is very realistic in speaking about it. In Iraq it is rather difficult for a woman to get educated, especially in the part of the country where she lived. So she is quite clear of the fact that she wants to get educated in Denmark before she goes back to Iraq in the future.

Students' identity and cultural diversities

The headscarf is a symbol of religious diversity that Razia has chosen herself and that she wants to maintain: "It is in *my* religion. I have chosen myself to wear it." In this condensed formulation, the word 'it' refers to the headscarf and to religion. The headscarf becomes a marked symbol of religion, indicating that a prohibition against the use of headscarf can be experienced as a prohibition against a religious belief. The headscarf is the physical expression of Razia not being a Dane, and this is part of her argumentation towards people who do not seem to like her headscarf:

Helle: What do you say then?

Razia: Nothing. Then I just say I am *not* Danish.

Razia is *not* Danish, and she wants to maintain her religious and cultural identity by keeping the headscarf. It is her conscious choice. However, she is perfectly well aware of the consequences it might have for her future life in Denmark:

Helle: Yeah. ... But is there more to it than the headscarf? Are there more things where you don't think people accept you?

Razia: Work!

Helle: Work?

Razia: I have also thought about that. [very quietly]

Helle: How?

Razia: That one can't get a job.

Helle: That one can't get a job?

Razia: Yes, we have talked about it with Susan [...] We have talked about it in the Language Centre with a teacher. She said to me that I can't get a job or a good education maybe ... that I can't get an education and so. Then I just said hum, well. I have chosen myself to wear this...

Razia is coping with big issues. Her headscarf might cause her troubles getting educated and getting a job in Denmark. Her headscarf plays an important role for how she constructs herself and for her foregrounds. Razia is well aware that keeping the headscarf is her own choice of holding to her religion and national values and she is not willing to give them up. To Razia the headscarf symbolises her personal and cultural identity in different ways. And she literally insists on maintaining this identity and showing diversity. What makes her very sad is her experience of non-acceptance

of diversity: “There are many, very many who don’t like head scarves. [...] Then I get *very* upset and tell it to my mum. And sometimes I start to cry.”

Teacher’s perspectives and priorities

Razia has the impression that many people dislike her headscarf, among them some teachers. One of them has even said that it might influence her possibilities of getting an education and a job. But the teacher’s perspective does not seem to influence her behaviour. “I don’t listen to anybody. It is in *my* religion. I have chosen myself to wear it.”

In a talk with her mathematics teacher about how he sees the future of his students, he characterised Razia as a nice girl who has good educational possibilities because: “Her attitude towards work is really all right. She is positive and she works very hard. She does not reach any big results at the moment, which is logically connected to language and maybe cultural barriers.” He thinks that she will be able to go to high school in 3 years if she keeps making progress the way she does until now. He is impressed by the way she has learned the Danish language in a very short time and she has done an incredible work.

Teacher: There is nothing wrong with her intellect, and her attitude towards work is really all right.

The math teacher thinks that she could easily become a pedagogue or a teacher: “... she will choose something like working with human beings. It would suit her mentality in relation towards other people in general.” So he is not surprised that Razia herself probably wants to become a nurse.

Mathematics

When asked about her resources and things that she is good at and interested in, Razia hesitates a lot before answering: “Danish, definitely, I like that.” And she adds: “Danish grammar.” When asked directly about mathematics she says:

Razia: Yes well, I’m just not good at it. I understand it, right? ... But now I have learned more and better. Now I can learn it better. But before I thought I would never ... I thought I could never learn mathematics, but now I can.

The difficult part for Razia in learning mathematics is definitely to complete her ‘blækregning’. (‘Blækregning’ has turned into an institution in Danish mathematics education. The word ‘blæk’ means ink, and ‘regning’ means calculation. Also 50 years ago the students had, on a weekly basis, to complete their ‘blækregning’: selected exercises the solutions of which must be written nicely by a fountain pen and then handed in for the teacher to correct. The fountain pen was later substituted by the ball pen, and many other things have changed in mathematics education. But the word ‘blækregning’ remains, and so do some to educational practices related to this ‘institution’.) However, other kinds of homework do not seem to cause her any

problems. The homework we get, it's easy. I know how to do that." There are no specific topics, which she finds especially difficult, she says.

Helle: But you have written in the questionnaire that you don't think you are very good at mathematics

Razia: Well, but I am not getting 10.⁵

No doubt, Razia wants an education. A good one! And for Razia 'a good job' has certain connotations. It is not about a lot of money, it is more about an interesting job: "It could be becoming a nurse." This choice has certain other reasons: "My father is a nurse, and therefore he can tell me many things." The father's position has a major role to play in Razia's dream of a future job. And this dream is certainly not out of reach.

Razia is not sure what it would take to become a nurse, but she suggests biology, "and then you use mathematics, I think [...] You use mathematics almost for everything." It is not sure if the mentioning of mathematics has to do with her knowing the context of the inter-view and interest of the researcher in mathematics education. As a matter of fact Razia is not able to point to any mathematical content of this job, but she agrees with Helle's suggestions of measuring and weighing (medicine for instance). In this way, it could be said that mathematics *per se* plays an inferior role in Razia's foregrounds. But being good at mathematics and doing well in school are certainly important parts of her educational plans.

Tools

The inter-view with Razia does not contain references to tools. She did not mention anything by herself and the researcher did not pick on this issue either. This could reflect two points. First, it could indicate that tools and artefacts for learning are available and do not constitute any big issue with respect to the social context of immigrant students in Denmark. Second, it could also reflect that in the context of learning mathematics, which Razia is experiencing, neither computers nor other more advanced technologies are recognised as relevant resources for learning mathematics. As mentioned before, the computer lab available for these students in the school was closed due to ravage.

Classroom interaction

As mentioned above, wearing a headscarf is a sign of identity and cultural diversity, which Razia herself experiences as a conflict in many ways. One thing is that it influences her contact and interaction with her classmates as she states three times during the inter-view: "... they don't like my headscarf. I don't really have contact with them either."

Razia: No, they don't say it, but I can see it.

Helle: How can you see it?

⁵ The mark 10 signifies 'very good' at a scale from 00 to 13, where the average is defined as 8.

Razia: Well, ... we don't really talk with each other. ... we have little contact
[very quietly] ...

Helle: Can you see in me, if I like it or not?

Razia: [laughs] I don't know.

Helle: [laugh together]

Razia: I know that...most Danes do not like the headscarf. There are many,
very many who don't like headscarves.

Helle: Yes.

Razia: Yes ... it is about racism and so on.

The students in Razia's class have not actually said to her that they do not like her headscarf. But she can see it, she says. Helle tries to challenge her a little by asking "Can you see in me, if I like it or not?" This intermezzo makes the two of them laugh together which we interpret as they are 'getting in contact'. It is amazing, though, how confidently Razia talks about her life being a young Muslim girl in Denmark.

Razia may interpret some of her classmates' nonverbal expressions as dislike, or maybe she just imagines that they do not like it because: "...most Danes do not like the headscarf." And she transfers this claim to a more generalized interpretation of racism. Later on she adds that she has the impression that many of her teachers do not like her headscarf either. The question is not whether Razia is right or wrong in presupposing that her classmates, her teachers and Danes in general do not like her headscarf. The important thing is that she experiences it in that way.

Parents

As indicated previously, Razia's parents seem to play a major role in her foregrounds. It is her mother who comforts her when she gets sad about reactions to her headscarf:

Razia: Then I get *very* upset and tell it to my mum. And sometimes I start to cry. Then my mum says "don't worry, we will go back."

The mother promises her a future life back home in Iraq, and she explains the conflict as a natural consequence of diversity between countries: "That is the way it is. It is not our country." The mother also plays a crucial role in Razia's identity as a Muslim woman. The mother is the only person who supports her in wearing a headscarf:

Helle: But in your family, who likes the headscarf?

Razia: My mother.

Helle: Your mother.

Razia: My brothers don't like it either.

Helle: They don't like...

Razia: And they tease me about it.

Helle: Okay. [sounds surprised] So in your own family, it is actually your mother and you?

Razia: Yes.

Helle: Yes. You are together on this issue.

Razia: Yes, yes. But my brothers they have girlfriends and so, so then they don't believe in headscarves. [mumbles] But I am just... I don't listen to anybody.

Helle: So that you have just decided?
Razia: Yes.
Helle: Yes. ... So now I understand why you wrote on your paper; that you don't want to live in Denmark.

The men in the family think that Razia should take off her headscarf and try to be like the Danes. The difference in perceptions between men and women in the family appears to generate a conflict through which Razia navigates with her own choices and priorities.

Friends

Razia does not talk much about friends during the inter-view. And Helle does not happen to follow this issue directly. However, Razia has some comments on the contact with her classmates, as we showed in the analysis of 'Classroom Interaction'. When Razia does not talk to her classmates and they have little contact, it is difficult to imagine that they make friends outside school. But we do not know for sure. Again, the reason she gives is the headscarf:

Helle: No. ... OK... What about your friends?
Razia: That doesn't work either. They don't like the headscarf...

Helle comes to think of something she observed when sitting in the class:

Helle: But I have noticed there are others than you who wear a headscarf in class.
Razia: Yeahh, but she takes it on and off and so...

From Razia's body and paralanguage it is obvious that she does not respect the person that takes the scarf 'on and off'. The two girls sit next to each other in class, but Razia's expression about the other girl's way of wearing the headscarf makes it clear that the two of them cannot be friends.

The conversation seems to indicate that Razia has no friends in school. We do not know for sure, however, whether she has friends outside school, with whom she can discuss her situation and future life. It seems like her mother is her closest friend.

Public discourses

Some evenings Razia distributes commercial pamphlets, and also in this case the headscarf is mentioned:

Helle: Okay. So you have a job!
Razia: Yes. Yes!! [laughs]
Helle: Oh!
Razia: Yes, they can't see if I have a headscarf or not. [laugh together]

Her idea is that she can only get a job when people cannot see her scarf. And Razia tells a scaring story about her distributing advertisings 'in the middle of the night', in the typical darkness of the Danish Winter.

Once she delivered the pamphlets to a Danish man who opened the door of his apartment to get them himself. Then she walked up the staircase to the other apartments in the building. Running down again she saw the man from the ground floor apartment coming up to her with a knife in his hands. She managed to escape, screaming and calling for her father:

- Razia: I screamed as loud as I could. I thought that all Denmark could hear me, but there was nobody. I could not open the door. It was first, it was on the ground floor right. Then I just opened. Then I came [sound of heavy breathing] Dad there was someone after me. Then my dad said "no, no it's not you are just scared" Then I said "No! It was a man who, who wanted to kill me." Then he said "ok, then I will do it if you are scared. ..." It has definitely happened many times.
- Helle: But, but your dad didn't really believe it?
- Razia: No, no.
- Helle: No?
- Razia: Then he just said: "It is your headscarf", because he doesn't like my headscarf. Then he just said: "hmm it is because of your headscarf. So take it off." Then I said: "No, I won't do that." [...]
- Helle: Why do you think he said that; that you should take it off?
- Razia: Because he thinks that when we live in Denmark we should behave like a Dane. But I don't agree with that.

Even in this scary story the headscarf is taking the leading part. It is a signal of cultural and religious diversity that Razia wants to maintain. However, this provides her a lot of troubles: difficulties in having contact and making friends with her class mates, difficulties in being accepted by the teachers and in the Danish society, difficulties in being educated and getting a job, difficulties with the male part of her own family. This is the price Razia is willing to pay for keeping her integrity and identity. The identity part may also be closely connected to becoming a woman. And in this part her mother plays an important role in supporting her, as we have seen before.

Not only to Razia, the headscarf serves as a symbol of culture and religious values. It does so to many other people, including (we assume) to the man who threatened Razia with a knife. The headscarf represents dignity to Razia, but it serves as well as a symbol of cultural difference. The discussion of scarf has been a heated issue in Denmark and in many other European countries. It is part of the discursive construction of 'otherness' and difference that is part of the way in which 'Europeans' and 'Immigrants' relate to each other. It makes part of the processes of inclusion as well of exclusion, so dramatically represented by the man with the knife.

Concluding observations

We conclude with some reflections particularly related to the conceptual framework that we are using in inter-viewing foregrounds.

First, we think that the notion of learning landscape, including its nine dimensions, might prove to be useful. We have introduced this construct to preserve the complexity of multiculturalism in relation to a learning situation in our analysis. Furthermore, we find that there is a richness of interrelationships between the nine dimensions. Thus, our attempt to inter-view Razia's foregrounds includes references to the most of dimensions of the learning landscape. This is important as we see a construct like 'learning landscape' as having at least two functions: on the one hand, it makes it possible for us to see things and to make a richness of observations possible; on the other hand, it provides a restructuring of what we are seeing. In particular, it is important that the constructs we use make it possible for us to grasp connections among the different spaces of action in which multiculturalism and (mathematics) learning unfold.

Second, some concepts are important for our investigations although they do not feature as particular dimensions of a learning landscape. These concepts, instead, refer to general features of the landscape. One of these concepts is 'conflict' another is 'racism'. These are complex notions, which possible content could be addressed through a careful analytical examination; but at the same time 'racism' also makes part of a great variety of daily-life uses of language with different meanings. In particular, the notion can be used to express experiences with respect to exclusion, as done by Razia. The notion of conflict refers to more general forms of disagreement with respect to opinions and positions, and we consider it important to include 'conflict' as an underlying construct for dealing with learning landscapes. Razia's story emphasises this.

Third, we can make some conclusions with respect to the notion of foreground. We have included students' foreground among the dimensions of the learning landscape. However, as is illustrated through the inter-view with Razia, an inter-viewing of foregrounds brings us to a variety of dimensions of the learning landscape. Furthermore, we must notice that we can use 'foreground' in plural. We have talked about multiple foregrounds, as a foreground can be acted out in different ways, depending on the context. Razia's foreground need not be considered as one particular entity. It is a relational entity. It can be acted out in different ways depending on the context. And here the context could refer to both the particular context of the inter-viewing, as well as the socio-political contexts, in which Razia might find herself. It is also important to notice that Razia expresses strong and clear opinions about her possibilities, ambitions and hopes; and when we compare her formulations with the teacher's comments about her possibilities, her formulations appears very realistic. Razia's formulations of possibilities include direct references to religious and cultural views. She is well aware that diversity in these matters might provoke a limitation of opportunities, if not a direct exclusion. In general we find that it is important to consider the multiplicities of foreground, also with respect to a particular person, and that this multiplicity reflects conflicts. We should not expect the foreground(s) of a person to make up a uniform and homogeneous entity. Motives and incitement for learning could easily contain conflicting elements. Foreground, and also foreground(s) for an individual person, is a site for diversities.

Fourth, we want to see opportunities for 'learning from diversity'. Razia expresses diversities (with respect to religion and culture) in a powerful way, but could such

diversity constitute resources for learning, also in the mathematics classroom? It appears to us that there is no effort in the mathematics classroom to locate learning resources from diversities within the classroom. Thus, we did not hear any hint from Razia to make us aware on such efforts. Nor in conversations with teachers from Mælkevejen School, did we hear indications that diversity could provide resources for learning. Instead the dominant teacher discourse emphasised ‘sameness’ as an adequate precondition for learning.⁶ So, based on what we have seen so far, we are in no position to claim that learning form diversity is of particular significance with respect to mathematics. This conclusion, however, we are going to reconsider in light of different types of empirical material.

Fifth, it is not clear to what extent mathematics (in a broad interpretation of mathematics) plays a significant role in a learning landscape of mathematics. This might appear a bit paradoxical, but the point is that many other issues than mathematics play important roles for the incitement for learning mathematics. So, if we should make a strong conclusion from such rather diffuse observations it could be that learning theories with respect to mathematics should address many other issues than mathematics.

Sixth, a learning landscape is a site for inclusion and exclusion. As already emphasised, a foreground is not any objective given, but it represents a person’s interpretation of possibilities. This mixture of subjective and objective elements is also represented by the ‘the man with the knife’. He was certainly active in Razia’s scaring story, but if we consider her father’s reaction, the man was not to be taken that seriously. Instead he provided an opportunity for Razia to consider taking off her scarf. The drama of inclusion and exclusion makes part of students’ foreground and of the whole landscape of learning.

⁶ At Mælkevejen skole, this was combined with a great tolerance of diversities. Anyway there is a difference between tolerating diversities and seeing diversities as resources. See also Alrø, Skovsmose and Valero (2005) for a discussion of ‘sameness’.

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